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**Federal State Autonomous Educational Institution of Higher Education
"Peoples' Friendship University of Russia"
(RUDN University)**

Academy of Engineering

(наименование основного учебного подразделения (ОУП)-разработчика программы аспирантуры)

Department of Mechanics and Control Processes

(наименование базового учебного подразделения (БУП)-разработчика программы аспирантуры)

SCIENTIFIC ACTIVITY PLAN

2.3.1 System Analysis, Control and Information Processes / Системный анализ,
управление и обработка информации (на англ. языке)

2.3.5 Mathematical Support and Software for Computer Systems, Complexes and
Computer Networks / Математическое и программное обеспечение вычислительных
систем, комплексов и компьютерных сетей (реализуется на английском языке)

Scientific specialty:

System Analysis, Control and Information Processes / Системный анализ,
управление и обработка информации (на англ. языке)
Mathematical Support and Software for Computer Systems, Complexes and Computer
Networks / Математическое и программное обеспечение вычислительных систем,
комплексов и компьютерных сетей (реализуется на английском языке)

(код и наименование научной специальности)

2022 г.

1. PURPOSE OF RESEARCH

The purpose of performing scientific research (carrying out scientific (research) activities) is to prepare a dissertation for the degree of candidate of science (hereinafter referred to as the dissertation) for defense.

a list of planned results based on the results of scientific research;

- volume of scientific research;

- an approximate plan for the implementation of scientific research;

- plan for the preparation of the thesis and publications, which set out the main scientific results of the dissertation;

- a list of stages in the development of the scientific component of the postgraduate program, the distribution of these stages and the final certification of postgraduate students.

2. PLANNED RESULTS OF SCIENTIFIC RESEARCH

Solving a scientific problem that is important for the development of the relevant branch of science, or developing a new scientifically based technical, technological or other solution that is essential for the development of the country.

Preparation of a dissertation for defense includes the implementation of an individual plan of scientific activity, writing, design and submission of a dissertation for final certification.

The plan of scientific activity includes an approximate plan for the implementation of scientific research, a plan for preparing a dissertation and publications that set out the main scientific results of the dissertation, as well as a list of stages for mastering the scientific component of the postgraduate program, the distribution of these stages and the final certification of postgraduate students.

The plan of scientific activity of a particular student is approved in the individual plan of scientific activity of a postgraduate student, the requirements for which are established by the relevant local normative act of the RUDN University.

3. SCOPE OF RESEARCH

The total labor intensity of scientific research is 150 credits (5400 academic hours).

4. STAGES OF PERFORMING RESEARCH*

Table 4.1. Stages of scientific research

Stage name	Stage content (topics, activities)	Labor intensity, acc.h.
1 course		
Section 1. Scientific activity of a postgraduate student aimed at preparing a dissertation for defense	Introduction	350
Section 2. Preparation of publications that present the main scientific results of the dissertation	Safety briefings.	108
Section 3. Preparation of applications for patents for inventions, utility models, industrial designs, breeding achievements, certificates of state registration of programs, etc.	Conversation with the leader: drawing up a plan for scientific research.	1306
Intermediate certification		
TOTAL:		1764
2 course		
Section 1. Scientific activity of a postgraduate student aimed at preparing a dissertation for defense	Statement of the purpose and objectives of the study.	564
Section 2. Preparation of publications that present the main scientific results of the dissertation	Review and analysis of information on the research topic.	564

Stage name	Stage content (topics, activities)	Labor intensity, acc.h.
Section 3. Preparation of applications for patents for inventions, utility models, industrial designs, breeding achievements, certificates of state registration of programs, etc.	Conducting theoretical and experimental research.	564
Intermediate certification		
TOTAL:		1692
3 course		
Section 1. Scientific activity of a postgraduate student aimed at preparing a dissertation for defense	Processing of experimental data, analysis of results.	648
Section 2. Preparation of publications that present the main scientific results of the dissertation	Preparation of a report and scientific publication.	648
Section 3. Preparation of applications for patents for inventions, utility models, industrial designs, breeding achievements, certificates of state registration of programs, etc.	Preparation of a report and scientific publication.	648
Intermediate certification		
TOTAL:		1944
TOTAL:		5400

6. LOGISTICS AND TECHNICAL SUPPORT OF SCIENTIFIC RESEARCH

1. Lecture rooms with multimedia projectors; laboratories with equipment and instruments for laboratory work.
2. Scientific laboratories equipped with appropriate equipment.
3. Computers for carrying out calculations and processing results and access to information systems.

7. RESEARCH METHODS

Scientific research can be carried out both in structural subdivisions of RUDN University or in organizations of Moscow (stationary), and at bases located outside of Moscow (exit).

Conducting scientific research on the basis of an external organization (outside RUDN University) is carried out on the basis of an appropriate agreement, which specifies the terms, place and conditions for performing scientific research in the base organization.

The deadlines for the implementation of scientific research correspond to the period indicated in the calendar academic schedule of the postgraduate program. The timing of the internship can be adjusted upon agreement with the Department for the Training of Highly Qualified Personnel of the RUDN University.

8. EDUCATIONAL-METHODOLOGICAL AND INFORMATION SUPPORT FOR SCIENTIFIC RESEARCH

Main literature:

1. Federal Law of August 23, 1996 No. 127-FZ "On Science and State Science and Technology Policy"
2. Resolution of the Government of the Russian Federation of September 24, 2013 No. 842 "On the procedure for awarding academic degrees"

Additional literature:

1. Shklyar M.F. Fundamentals of scientific research. M.: Publishing and Trade Corporation "Dashkov and Co", 2012. - 244 p.

2. Fundamentals of scientific research: textbook. allowance / B.I. Gerasimov and others. - M .: FORUM, 2011. - 269 p.
3. Denisov S.L. How to draw up a dissertation and abstract: Method. allowance. – 2nd ed., revised. and additional - M.: GEOTAR-Media, 2005. - 85 p.
4. Kuzin F.A. Dissertation: Methodology of writing. Design rules. Order of protection: pract. manual for doctoral students, graduate students and masters / Kuzin F.A.; ed. Abramova V.A. -M.: Os-89, 2008. - 447 p.
5. Mareev S.N. Philosophy of Science. Textbook for graduate students and applicants. - From: Infra-M, 2015.

Resources of the information and telecommunications network "Internet":

1. RUDN ELS and third-party ELS, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System - RUDN EBS <http://lib.rudn.ru/MegaPro/Web>
- ELS "University Library Online" <http://www.biblioclub.ru>
- EBS Yurayt <http://www.biblio-online.ru>
- ELS "Student Consultant" www.studentlibrary.ru
- EBS "Lan" <http://e.lanbook.com/>
- EBS "Trinity Bridge"

2. Databases and search engines:

- electronic fund of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search engine <https://www.yandex.ru/>
- Google search engine <https://www.google.ru/>
- abstract database SCOPUS <http://www.elsevierscience.ru/products/scopus/>

Educational and methodological materials for scientific research*:

1. Guidelines for the preparation of dissertations, scientific publications.

* - all educational and methodological materials for scientific research are posted in accordance with the current procedure on the practice page in TUIS!

8. EVALUATION MATERIALS AND ASSESSMENT SYSTEM OF STUDENTS ON THE RESULTS OF THE PERFORMANCE OF SCIENTIFIC RESEARCH

Mandatory activities of the student:

1 year of study:

- preparation and discussion at the department of the concept of the dissertation and approval of the topic;
- preparation of historiographical and experimental/source base of the research;
- presentation at a scientific conference;

2nd year of study:

- preparation and discussion at the department of part of the dissertation;
- presentation at a scientific conference;
- publication of at least two scientific articles, including one scientific article on the research topic in a publication included in the list of the Higher Attestation Commission and / or RUDN University or SCOPUS, Web of Science and others equivalent to them and / or approved by the RUDN Academic Council;

3rd year of study:

- preparation of the entire dissertation and presentation to the supervisor;
- publication of at least three scientific articles, including two scientific articles on the research topic in publications included in the list of the Higher Attestation Commission and/or RUDN University and SCOPUS, Web of Science, other equated to them and/or approved by the RUDN Academic Council;
- discussion of the dissertation at the meeting of the department;

4 year of study:

- preparation of the entire dissertation and presentation to the supervisor;
- publication of at least three scientific articles, including two scientific articles on the research topic in publications included in the list of the Higher Attestation Commission and / or RUDN University and SCOPUS, Web of Science and others equivalent to them and / or approved by the RUDN Academic Council;
- discussion of the dissertation at the meeting of the department;

Based on the results of the stages of identifying scientific research, the graduate student submits a detailed oral or written report to the supervisor or to the meeting of the PMU. The report includes information characterizing the content of the postgraduate student's work and reflecting the implementation of scientific research.

The report should include information about:

- about the degree of readiness of the dissertation;
- on the preparation and publication of articles in journals included in the list of the Higher Attestation Commission, RSCI, Scopus, Web of Science and others equivalent to them and / or approved by the RUDN Academic Council;
- about the participation of a graduate student in scientific and technical events on the topic of his research;
- on participation in the research work of the department (with participation);
- other.

During the period of interim certification, the supervisor provides feedback on the quality, timeliness and success of the postgraduate student's stages of scientific (research) activities.

The results of scientific research for each year of study are determined by conducting an intermediate certification with grading "excellent", "good", "satisfactory", "unsatisfactory" and in the ECTS system (A, B, C, D, E). The basis for their nomination is the point-rating system adopted at the University.

DEVELOPERS:


**Assistant of Prof.,
Department of Mechanics
and Control Processes**



Saltykova O.A.

Head of Department:

**Department of Mechanics
and Control Processes**



Razoumny Yu.N.
